REMARKS

Claims 14, 15 and 17-68 were pending in the application and were rejected under 35 U.S.C. 103 (a) over combinations of two or more of the following references: Okin (U.S. patent 5,361,337); Uchiyama (U.S. patent 4,797,816); Hendel (U.S. patent 5,175,732); Nemirovsky (DYNAMIC INSTRUCTION STREAM COMPUTER, Apple Computer Corporation, 1991).

Claim 14 is amended to incorporate a FIFO recitation from its dependent Claim 34. Claim 14 now recites that the first instruction accesses a FIFO. The instruction can be blocked after its execution has been started if the FIFO is unavailable for the instruction, in which case the instruction is re-executed.

Some embodiments of Claim 14 facilitate FIFO access because a FIFO access instruction can be executed without first determining if the FIFO is available. For example, the shared FIFO access described in Applicants' specification, page 19, lines 8-24 can be implemented in an efficient manner. See the specification, page 26, lines 18-20. Claim 14 is not limited to the embodiments or advantages discussed herein.

The four cited references do not teach or suggest a FIFO-accessing instruction that can be blocked after the processor has started its execution as recited in Claim 14. Hendel's processor 4 writes commands to FIFOs 25, 26 (Fig. 5 and column 10, lines 10-15 and 30-35). Hendel's MAC 17 reads and executes these commands and writes status bits to FIFOs 27, 28. Hendel, column 10, lines 50-51 and 55-61. The status bits are always available to the processor and can be inspected by the processor "at any time" (column 13, line 55; column 14, line 10). Thus, the processor can determine at any time if the earlier receive or transmit command has been executed and the corresponding FIFO is available. The processor can make this determination before accessing the FIFO, and Hendel does not teach or suggest a FIFO accessing instruction which can be blocked after the processor started its execution if the FIFO is unavailable as recited in Claim 14.

Okin, Uchiyama and Nemirovsky also do not teach or suggest an instruction as in Claim 14.

Claims 15, 17 depend from Claim 14.

Claim 18 recites a task TA1 executing an instruction accessing a resource that may be unavailable to the task TA1 due to the resource being made available to another task. The instruction execution can start even if the resource is unavailable to the task TA1, when the resource is unavailable due to it being made available to the other task. The instruction execution is suspended after its execution has been started, and the task TA1 is suspended.

Some embodiments of Claim 18 facilitate task synchronization needed to access a shared resource because a task can execute an instruction accessing the resource without first determining if the resource is unavailable due to its being made available to another task. Claim 18 is not limited to the embodiments or advantages discussed herein.

Okin's cache misses are unrelated to the cache being made available to another process or task as recited in Claim 18. Okin therefore does not teach or suggest the instruction of Claim 18.

Uchiyama is directed to page faults, i.e. to conditions created when "a program makes access to a page not present in the physical memory" (column 1, lines 20-21). There is no indication that the page fault is due to the page being made available to another task as recited in Claim 18. Uchiyama is thus no more pertinent to Claim 18 than Okin. Hendel also is no more pertinent.

Nemirovsky also does not teach or suggest the instruction of Claim 18, and further suggest using semaphores for interprocess communication and synchronization (Nemirovsky, section 3.6.2 on page 167). Some embodiments of Applicants' invention allow the interprocess synchronization to be implemented without a semaphore. In some embodiments, the task TA1 can execute the resource-accessing instruction without first accessing a semaphore to determine if the resource is unavailable due its being made available to another task.

Claims 19-22 depend from Claim 14.

Claim 23 is amended by incorporating a FIFO recitation from its dependent Claim 54. Claim 23 is believed to be allowable for reasons similar to the reasons given above for Claim 14.

Claims 24-29 depend from Claim 23.

Claims 30-31, 34-45 depend from Claim 14.

Claim 46 is amended to depend from Claim 18 and recite a FIFO. Claim 46 thus incorporates both the language of Claim 18 and the FIFO feature of Claim 14.
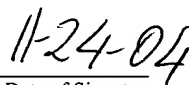
Claims 47-49 depend from Claim 46.

Claims 50-51, 54-64, 66-68 depend from Claim 23.

New dependent **Claim 69** repeats the language of the original Claims 16. Dependent **Claim 70** has similar language.

The claims are also amended for closer correspondence to the original claims. For example, "aborted" is replaced throughout with "suspended".

Any questions regarding this case can be addressed to the undersigned at the telephone number below.

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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 24, 2004.

Michael Shenker 11-24-04

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